

REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and following remarks.

By the foregoing amendment, claims 1, 5, 12 and 8 have been amended, claim 2 has been canceled without prejudice or disclaimer for filing in a continuation application, and new claim 17 has been added. No new matter is added. Thus, claims 1 and 3-17 are currently pending in the application and subject to examination.

In the Office Action mailed March 24, 2005, the Examiner objected to claims 1 and 8 for informalities. In addition, the Examiner rejected claims 5 and 12 under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 1 and 8 have been amended responsive to the objection, and claims 5 and 12 have been amended responsive to the rejection. If any additional amendment is necessary to overcome the objection and rejection, the Examiner is requested to contact the Applicant's undersigned representative.

The Examiner rejected claims 1, 4, 5, 8, 11 and 12 under 35 USC § 103(a) as being unpatentable over Applicant's Admitted Prior Art ("AAPA") in view of US Patent No. 5,087,964 to Hatta ("Hatta"), in view of US Patent No. 5,249,055 to Masuda et al. ("Masuda"), and in view of the Examiner's Official Notice; rejected claims 2, 3, 9, 10, 15 and 16 under 35 USC § 103(a) as being unpatentable over the AAPA in view of Hatta, in view of Masuda, in view of the Examiner's Official Notice and further in view of US Patent No. 5,220,210 to Miwada ("Miwada"); rejected claims 6 and 13 under 35 USC § 103(a) as being unpatentable over the AAPA in view of Hatta, in view of Masuda, in view of the Examiner's Official Notice and further in view of US Patent No. 6,078,685 to

Kawai et al. ("Kawai") in further view of US Patent No. 5,773,814 to Phillips et al. ("Phillips"); and rejected claims 7 and 14 under 35 USC § 103(a) as being unpatentable over the AAPA in view of Hatta, in view of Masuda, in view of the Examiner's Official Notice, in view of Kawai in view of Phillips, and further view of US Patent No. 5,648,653 to Sakamoto et al. ("Sakamoto"). It is noted that claim 2 has been canceled and claims 1, 5, 8 and 12 have been amended. To the extent that the rejections remain applicable to the claims currently pending, Applicant hereby traverses the rejections, as follows.

Independent Claims 1 and 8

The Examiner rejected claims 1 and 8 under 35 USC § 103(a) as being unpatentable over the AAPA in view of Hatta, in view of Masuda, and in view of the Examiner's alleged Official Notice of certain features. In making this rejection, the Examiner asserts that the AAPA discloses all of the features of claims 1 and 8 with the exception of:

- 1) the peripheral circuit section formed on said semiconductor substrate and disposed outer than said image pickup section with respect to the longitudinal direction;
- 2) a plurality of metal lines formed on the surface of said semiconductor substrate, each of said metal lines having an end connected to one of said bonding pad and another end connected to said peripheral circuit or said charge transfer element; and
- 3) a light-suppressing layer formed above said semiconductor substrate and covering a peripheral area of each said photodiode.

Regarding feature number one (1) above, the Examiner cites Masuda as allegedly disclosing a peripheral circuit section including amplifier 7 formed on a semiconductor substrate 3 and disposed outer than an image pickup section 4 with respect to the longitudinal direction. Regarding feature number two (2) above, the Examiner takes "Official Notice" that "etching of metal lines on a semiconductor substrate for the purposes of forming bonding pads, interconnects and trace runs" is "a practice that is well known in the art." The Examiner further asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention for the image sensor as taught by Hatta (described herein below), Masuda and the AAPA to include a plurality of metal lines formed on the surface of said semiconductor substrate, each of said metal lines having an end connected to one of said bonding pad and another end connected to the circuitry peripheral to the photodiodes in order to be able to pass signal from the photodiodes to the bonding pads and eventually to circuitry external to the semiconductor substrate..." See the Office Action at p. 5. Regarding feature number three (3) above, the Examiner cites Hatta as allegedly disclosing a light shielding plate 17 having an opening therein positioned such that "no light is incident other than on the image area 21 on the chip 14". See Hatta at col. 4, line 47-48.

Applicant respectfully submits that since the light shielding plate 17 of Hatta shields all of the linear image sensor chip except the image area 21, combining the light shielding plate 17 of Hatta with the linear image sensor chip of the AAPA would result in the bonding pads of the AAPA also being covered by the light shielding plate. Thus, the cited combination fails to disclose or suggest each and every feature of the invention as

claimed in claims 1 and 8, since claims 1 and 8 claim, in part, "each of said bonding pads having an exposed surface".

Further, since the proposed modification would result in the bonding pads of the AAPA being shielded, Applicant submits that combining the light shielding plate 17 of Hatta with the linear image sensor chip of the AAPA, as suggested by the Examiner in the outstanding Office Action, would render the AAPA unfit for its intended purpose.

Section 2143.02 of the MPEP states "[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Since modifying the AAPA as suggested in the outstanding Office Action would render the AAPA unsatisfactory for its intended purpose, it is respectfully submitted that the proposed modification is inappropriate, and any rejection of the claims based thereon is improper. Thus, withdrawal of the rejection of independent claims 1 and 8 as being unpatentable over the combination of the AAPA and Hatta, etc., is respectfully requested.

Masuda, Miwada, Kawai, Phillips and Sakamoto are not cited for disclosing, nor do they disclose, at least the feature of a light-suppressing layer formed above said semiconductor substrate and covering a peripheral area of each said photodiode.

Thus, it is respectfully submitted that claims 1 and 8 patentability distinguish the present invention from the cited references and are in condition for allowance.

Dependent Claims 3-7 and 9-16

Claims 3-7 and 9-16 depend from claims 1 and 8, respectively. Thus, claims 3-7 and 9-16 are allowable for the same reasons as claims 1 and 8, as well as for the additional subject matter recited therein.

Accordingly, withdrawal of the rejections of claims 1 and 3-16 is respectfully requested.

New Claim 17

Claim 17 depends from claim 1. Thus, claim 17 is allowable for the same reasons as claim 1, as well as for the additional subject matter recited therein. Accordingly, an early notice of allowability of claim 17 is respectfully requested.

With regard to each of the rejections under §103 in the Office Action, it is also respectfully submitted that the Examiner has not yet set forth a *prima facie* case of obviousness. The PTO has the burden under §103 to establish a *prima facie* case of obviousness. In re Fine, 5 U.S.P.Q.2nd 1596, 1598 (Fed. Cir. 1988). Both the case law of the Federal Circuit and the PTO itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under §103, there must be a showing of proper motivation to do so. The mere fact that a prior art reference could arguably be modified to meet the claim is insufficient to establish obviousness. The PTO can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. Id. In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See also In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (prior art could not be

turned upside down without motivation to do so); In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1998); In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Lee, 277 F.3d 1338 (Fed. Cir. 2002).

In the Office Action, the Examiner merely states that the motivation for combining the references is found in certain advantages stated by the Examiner (see, e.g., Office Action at pp. 4-5). The Examiner, however, indicates nothing from within the applied references to evidence the desirability of this combination. This is an insufficient showing of motivation.

CONCLUSION

For all of the above reasons, it is respectfully submitted that the claims now pending patentability distinguish the present invention from the cited references. Accordingly, reconsideration and withdrawal of the outstanding rejections and an issuance of a Notice of Allowance are earnestly solicited.

Should the Examiner determine that any further action is necessary to place this application into better form, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. The Commissioner is hereby authorized to charge any fee deficiency or credit any overpayment associated with this communication to Deposit Account No. 01-2300, referencing docket number 107317-00032.

Respectfully submitted,

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